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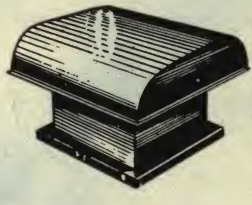
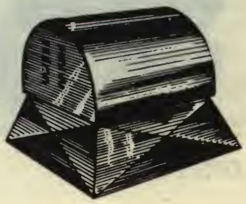
PENN VENTILATORS





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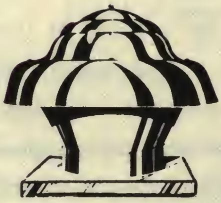
BULLETIN PMB-58



Functionally Engineered

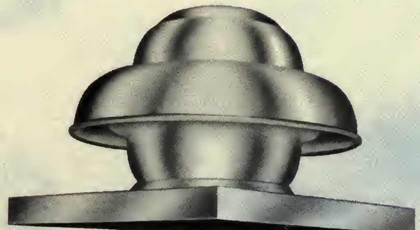
POWERED AND GRAVITY ROOF EXHAUSTERS

with . . . Architectural Considerations

Today roof ventilators are the accepted-proven-practical way of solving ventilation problems. They offer a direct, inexpensive, space saving,effective answer to many air moving requirements. Penn Ventilator Co., a pioneer roof ventilator manufacturer and long a leader in the industry, has contributed to many advances in the field. Now roof exhausters must satisfy architectural demands as well as the mechanical engineers requirement for efficient performance.

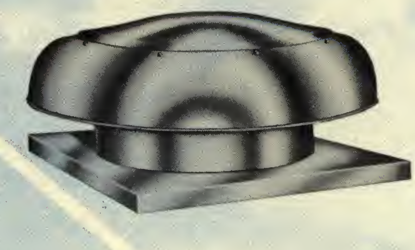
New materials and methods have been applied in the design and construction of Penn roof exhausters in recent years to allow virtually unlimited architectural freedom as well as maintaining proper engineering principles. The distinct types of roof ventilators in Penn's complete line permits a flexibility of selection. The designer can choose the correct units for specific job conditions with Penn Ventilators.

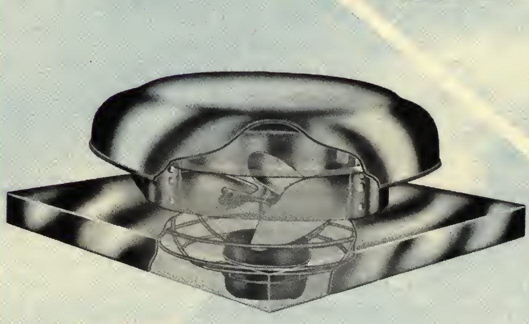
DIRECT DRIVE



V-BELT DRIVE

WEATHER CAP





DOMETTE

DOMEX

Shining durable aluminum has been spun into weatherproof fan housings for the Domex—featuring low, clean lines. Fully housed fans are efficient and thoroughly engineered—proven by countless important installations.

Fan units have been engineered expressly to provide sound levels satisfactory for schools, hospitals, public and commercial buildings, as well as various other applications.

The Domex is available in a broad range of capacities in both direct and V-belt driven centrifugal models for roof mounting, centrifugal wall fans, and axial flow and relief models. Refer to Bulletin DMXA-88; twelve pages of complete catalog information.

Domex Weather Caps are designed for use as inconspicuous weather-proof outlets in areas of positive pressure, or, as discharge heads where interior ducted systems terminate at the roof. They are used also conversely as low velocity fresh air intake hoods. Domex Weather Caps provide compatible silhouettes to the powered Domex line where units of both types are necessary.

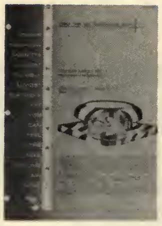
The Domette axial flow roof exhauster is also related in appearance to the spun aluminum Domex line. Here is a low height—good looking—quiet assembly that combines low capacity fans and discharge vents in one self-contained assembly. You will find it just fits requirements for an inexpensive long life unit for the ventilation of small areas. Bulletin DMT-58 describes the unit in detail.

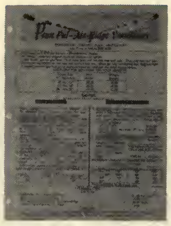
"The dual design features progressive architects and engineers consider most, have been built into the Penn line of roof exhausters...

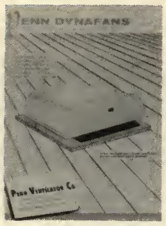
low height—low sound levels plus—durability, versatility, efficiency and uniform appearance."

The Penn Ventilator man in your area has more information. . . .

PENN VENTILATOR CO., INC.



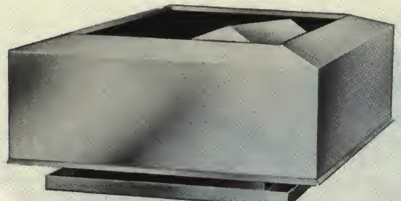


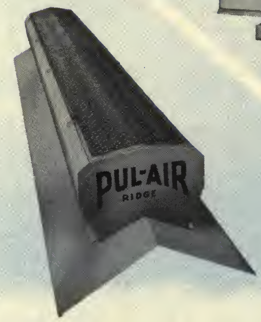


PENN DYNAFANS

or — you can write direct for catalogs on the industry's most complete line.

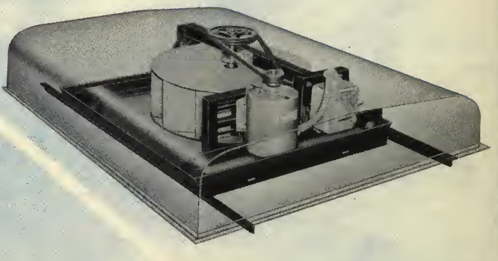
AIRCAP

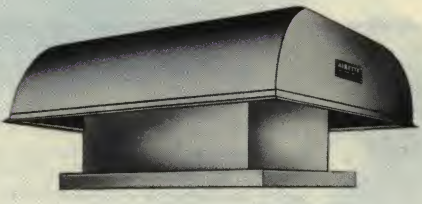




PUL-AIR RIDGE

LC DYNAFAN





AIRETTE GRAVITY

Most structures incorporate ventilation provisions in their design.

For proper building preservation and occupant comfort—buildings must breathe. Gravity (natural draft) and relief ventilation measures are commonly employed—independently, or in conjunction with positive mechanical ventilation systems.

Penn provides an extensive line of gravity and relief exhaust heads. For schoolhouses and other applications where aesthetics are an important consideration, Aircaps and Continuous Ridge Ventilators provide effectiveness as well as low height levels and architectural harmony. A wide range of throat sizes coupled with any length measurement provide maximum design flexibility. Consult factory for additional information.

Reduced to almost one-half the height of conventional exhausters, Type LC Dynafans contain the important features found in Penn's standard model LVQ (low velocity wheel design) units. In addition, they feature straddled bearing design. Quieter operation, better balance, longer belt and bearing life are the results of this unique fan mounting method. Full details are available in Bulletin PD-42LC.

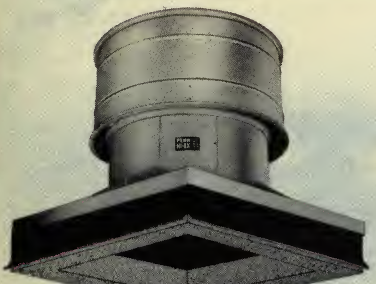
Airette Gravity Ventilator housings harmonize with the appearance of the Type LC Dynafan. Thus a uniformity of design can be maintained where fresh air intake and relief hoods are required in conjunction with powered ventilation. Airette Gravity Ventilators are available fabricated of a variety of metals, and in a virtually unlimited range of sizes.

"A COMPLETE LINE OF VENTILATORS
TIME TESTED, FIELD PROVEN,
FOR SPECIFIC JOB APPLICATIONS"

Designers require different materials, methods and products to accomplish their specific job requirements. In this regard the roof exhauster industry is cognizant of its responsibility. It provides individual product designs—each best suited to a particular use. Penn's broad range of products offers a roof ventilator selection from one source which is unparalleled in the industry. Penn permits complete design flexibility with a variety of roof ventilators virtually tailor-made for your project requirements.

Products illustrated on previous pages have been grouped so that the architect and engineer can select units of compatible appearance where particular consideration is extended to quiet operation and low silhouettes. For buildings where such demands are less critical, such as factories and shops, laundries, garages, large kitchens, etc., other designs sometimes provide better value, performance and design characteristics. Illustrated below are more products to assist your planning.

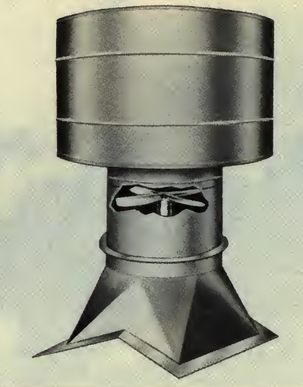
PENN HI-EX



HI-EX ventilators are high velocity—high efficiency, vertical discharge roof exhausters. Straight thru air blast provides rapid, friction-free air removal. Exhaust discharges high above the roof, which prevents vitiated air from damaging roof surfaces or re-entering the building through fresh air intakes or windows. Air stream holds dampers open until fan is shut off. Dampers automatically close as air discharge diminishes. Units are low in height and of sturdy, weatherproof construction. **Complete details are available in Bulletin PH-44H.**

- **Damper set in oil-less bronze bearings**
- **Certified capacities from 3000 CFM to 45,000 CFM**
- **Heavy metal construction**
- **Adaptable to flat or pitched mountings**
- **Available with isolated drive components**
- **Automatic fire-actuated damper opening device available**

PULLMAN FAN VENTILATOR

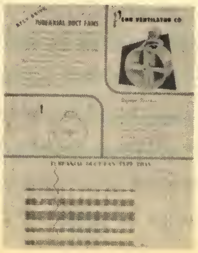


Powerful positive air removal is achieved where Penn duct fans are employed in conjunction with gravity ventilator heads.

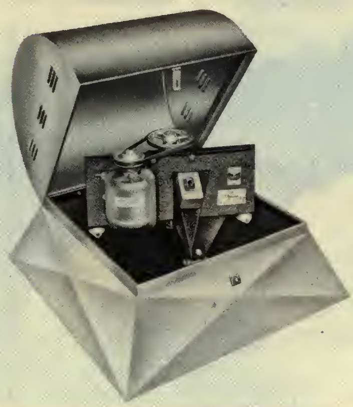
These units serve a dual purpose. They are used extensively where dust, fumes, smoke, heat, etc., must be removed constantly or periodically; where buildings in pocketed locations demand ventilation and where resistance due to moderate static pressure is encountered.

When capacity requirements are lessened and fan action becomes unnecessary they serve also as highly efficient natural draft gravity ventilators.

- **Direct or V-belt driven units available**
- **Fans can be mounted in bases or separate sections**
- **Available with Dampers and Screening**
- **Available for mounting on all style roofs**
- **Completely weatherproof**



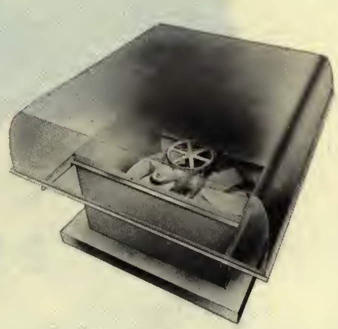
DYNAFAN



Dynafans have long been a standard where efficient centrifugal roof exhausters are required. They are, in effect, completely self-contained exhaust systems. Dynafans employ large wheels turning at moderate and slow speeds. They are used extensively for air removal that demands a quiet steady exhaust particularly where moderate resistance is encountered. Units are structurally designed with sturdy steel supports welded into a solid frame. Weathering surfaces are adequately reinforced and can be fabricated of various metals. **Complete certified performance data and other details are available in Bulletin DP-42.**

- **Rubber floated drive assembly**
- **Easily accessible components**
- **Motors isolated from air stream**
- **Statically and dynamically balanced fan wheels**
- **Versatility of belt drive**
- **Gas and explosive-proof accessories available**

PENN AIRETTES



. . . are a complete ventilation package featuring a wide range of capacity for both exhaust and supply purposes. Efficient direct and V-belt driven fans are installed in a hooded weatherproof housing providing complete accessibility and architecturally modern lines.

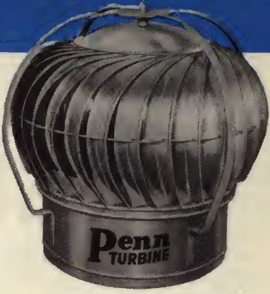
The Model LO is a modification of standard Airette units. In this design the fan casing is recessed within the height of the curb, reducing the overall projection above the roof line. Backdraft dampers are installed on the discharge side of the fan. **Complete details are available in Bulletin PA-14B.**

- **Housings available in**
  - **Galvanized Steel**
  - **Aluminum Copper**
  - **Stainless Steel**
  - **Protected Metal**
- **Equal outlet areas all sides**
- **Motor operated or Automatic dampers available**
- **Bird guards also available accessory**
- **Remote drive arrangements Motor out of air stream available**

GRAVITY ROOF VENTILATORS

All Penn Gravity roof ventilators are sturdily constructed and adequately braced with supporting members properly designed for the size involved. They are built to last and perform without attention. They are constructed of prime sheets of heavy gauge galvanized steel, copper, aluminum, stainless steel, protected metals, etc. as specified. All ventilators are completely weatherproof and each is designed for a specific purpose. Complete bulletins describing these different ventilators in detail are available upon application.

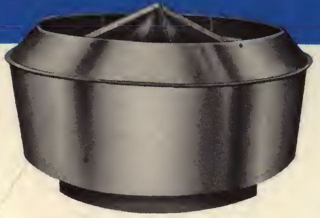
PENN TURBINE



. . . ventilators are true rotary, air-driven suction turbines that work automatically and continuously without maintenance or operating expense. Bal bearing action enables the slightest motion of ai to move the rotor. Centrifugal force, caused by the freely revolving head, creates a vacuum. Fou air rushes up to fill the vacuum and is expelled The ball bearing unit, "the heart of the ventilator", is factory lubricated and carries an unconditional lifetime guarantee. *(sizes 6" to 42").*

BULLETIN PT-24

ROYAL



. . . ventilators are the renown standard of gravity exhausters. Sturdy, rigid construction such as standing seams, wired edges, heavy material weights, and powerful interior bracing, provide an unbeatable challenge to wind, wear, and weather. The Royal ventilator has been scientifically created to meet ventilating requirements with superior time-tested engineering features. Tapered exterior frustums direct the oncoming air across the exhausting head at the angle of maximum effect. *(sizes 6" to 72").*

BULLETIN RYL-58

PULLMAN

. . . ventilators are efficient gravity roof ventilators with an especially large protected outlet area. Units are made to prevent backdrafts and vertical discharge of air is constant regardless of wind direction. Large exterior suction band converts passing wind currents into a powerful suction force accelerating the movement of air up through the ventilators. *(sizes 6" to 72").*

BULLETIN PM-58

PUL-AIR

. . . ventilators are moderately priced, stationary roof ventilators designed for general use where gravity ventilation is required or as a discharge head for ventilating systems. Glass tops, which serve as a skylight, are one of the many available accessories. The entire ventilator is sturdily built and rigidly braced. It is weatherproof, amply proportioned, and provides free area for the outward flow of air. Construction is simplified and once installed requires no service or operating expense. *(sizes 3" to 96").*

BULLETIN PA-58

RECTANGULAR PUL-AIR

. . . ventilators are a modification of the standard round units and are intended for use where odd size ducts, masonry flues or shafts extend through the roof or openings of irregular areas must be capped with a weatherproof gravity ventilator. They can be furnished in any desired size.

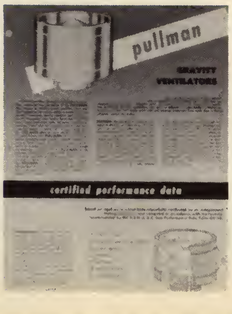
All gravity roof ventilators can be furnished with bird and insect screening, mounting bases to fit all types of roof conditions and curb requirements as well as single leaf, butterfly, cone, and sliding sleeve dampers. Damper control can be furnished for chain, quadrant, crank or electrical operation. Bases for all gravity ventilators can be furnished with accessories such as condensation gutters, companion angle rings, and access doors where required.

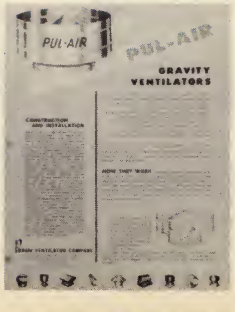
LIBERTY

. . . ventilators are capable of moving large quantities of air by siphonage action. All air currents — upward, downward, horizontal or swirling are forced to draw air out of the ventilator by the ingenious arrangement of baffles and wind vanes. Certified ratings based on tests* made with the wind blowing at all angles are available. Tests also prove freedom from backdrafts.

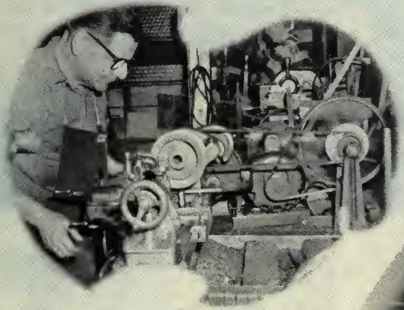
BULLETIN LS-58

Write for detailed descriptive brochures illustrating all ventilators and accessory products.



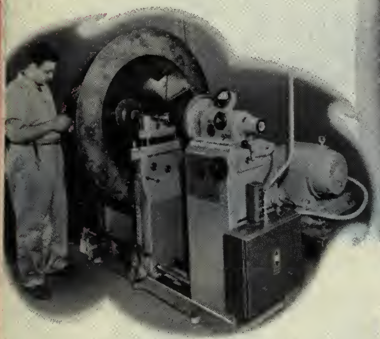


PENN VENTILATORS

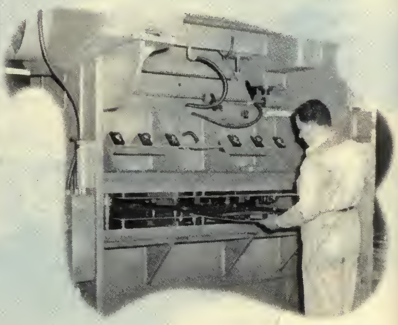


Machinist at work at one of the lathes used for turning, keying, shafting and for boring operations.

Penn Domex parts are illustrated being spun on modern spinning machines.

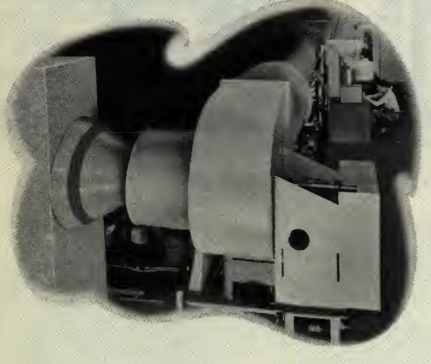


Illustrated is one of the complex static and dynamic balancing machines in the Wheel Department where all size impellers are accurately balanced.

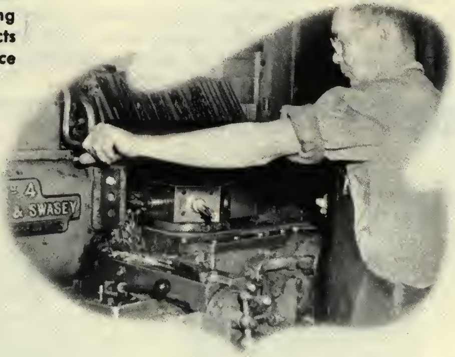


Die stamped parts—another modern production method used at the Penn Ventilator Company.

Candid photographs illustrate a part of Penn's extensive manufacturing facilities. Here, experienced and competent personnel combine engineering and testing talents along with production craftsmanship to provide quality products at a fair price. *Here also, you can get the kind of service you want.*



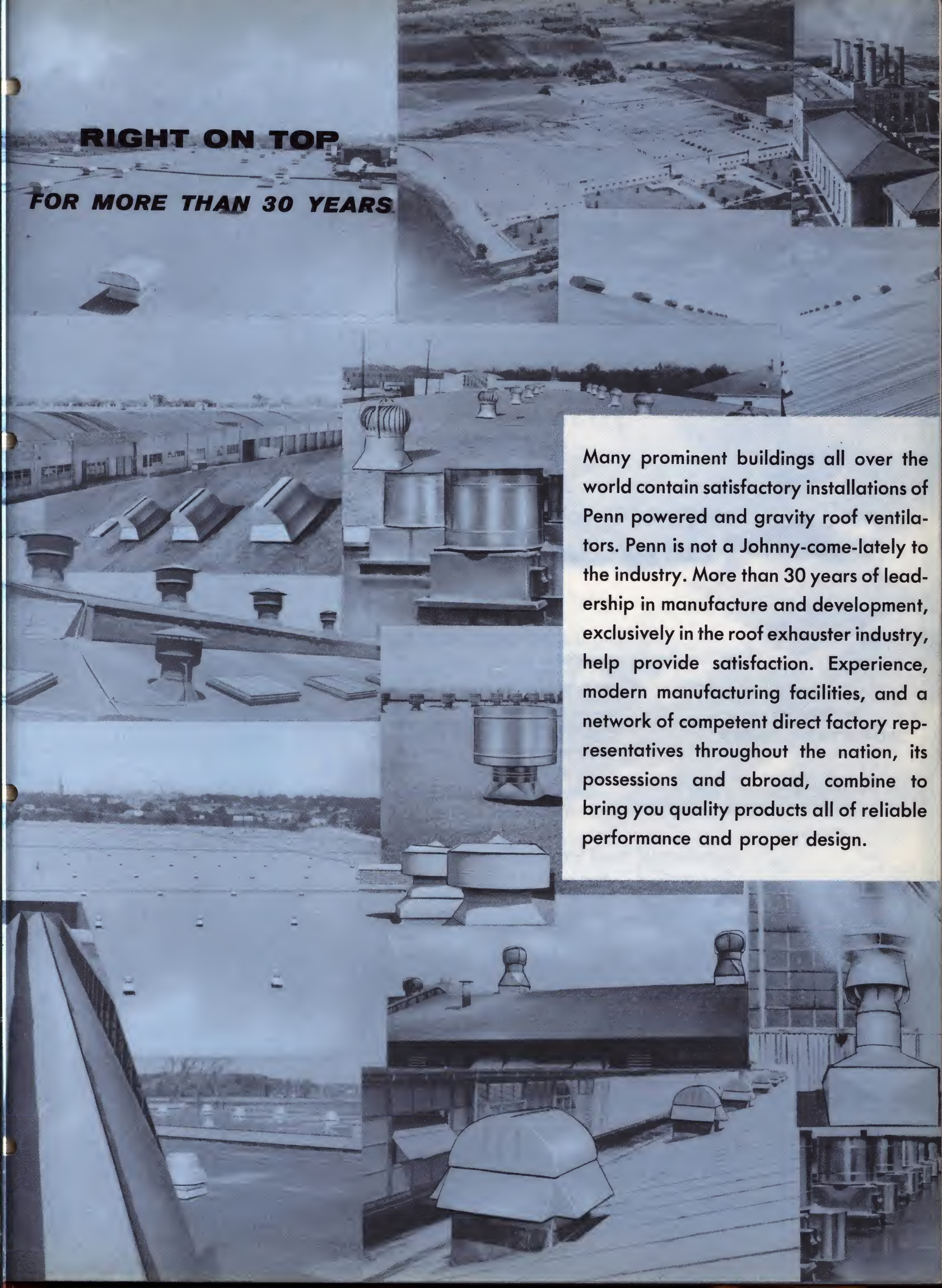
Partial view of Penn's extensive test facilities and ***AMCA approved wind tunnel***



Multiple machining operations are accomplished on this turret lathe in Penn's machine shop.

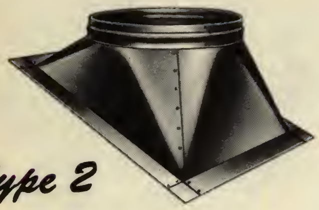
RIGHT ON TOP

FOR MORE THAN 30 YEARS

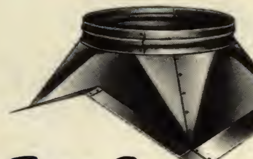


Many prominent buildings all over the world contain satisfactory installations of Penn powered and gravity roof ventilators. Penn is not a Johnny-come-lately to the industry. More than 30 years of leadership in manufacture and development, exclusively in the roof exhauster industry, help provide satisfaction. Experience, modern manufacturing facilities, and a network of competent direct factory representatives throughout the nation, its possessions and abroad, combine to bring you quality products all of reliable performance and proper design.

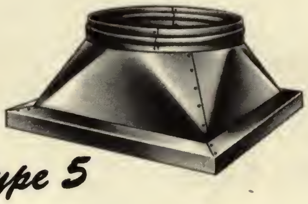
MOUNTING BASES



Type 2



Type 3



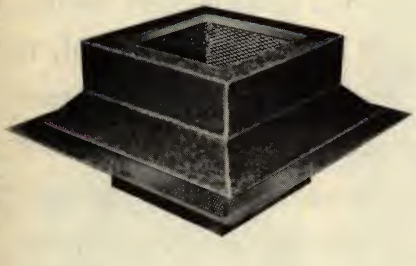
Type 5

. . . are properly proportioned and provide a solid and weatherproof seat which facilitates the easy installation of the ventilator on any style roof or curb, on either existing or new structures. All bases are factory formed to exact job measurements. They are made of heavy gauge metal with swedged collars, wide flashing flanges and seams securely riveted and well soldered or welded (Protected metal and aluminum seams are caulked or doped tight).

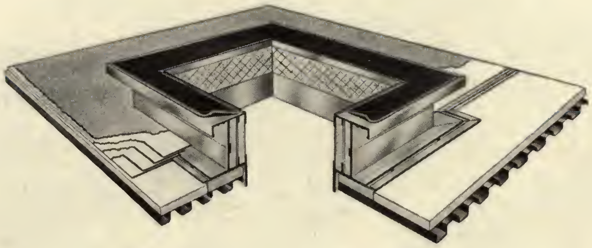
Penn bases adequately support the weight of the ventilator, distribute it evenly to roof supports and at the same time are of the taper-cone design which permits the easy movement of air through the ventilator orifice. Companion angle rings, angle lugs, condensation gutters with weep holes, lead flashing, anchor straps and access doors are optional accessories furnished at extra cost.

For aluminum construction Penn's Seamless Spun Bases are also available. Consult the factory for additional details.

ROOF CURBS

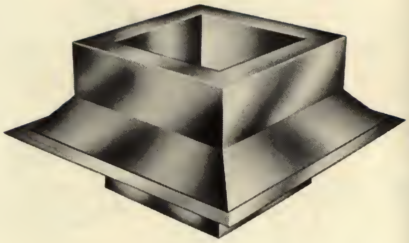


The Original
SONOTROL CURB



Extruded Aluminum
SONOTROL CURB

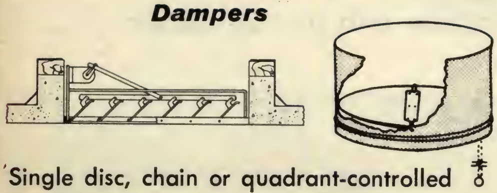
Bulletin SC-88 contains data on Penn's roof curbs. Information pertaining to extruded aluminum curbs as well as fabricated types is outlined. In most instances where a gravity or powered ventilator is used, a roof curb is also required. Penn's acoustically and thermally insulated curbs generally cost no more than field constructed curbs and are far superior.



Twin Shell
THERMALLY
INSULATED CURB

ACCESSORIES

Dampers



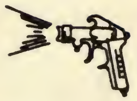
Single disc, chain or quadrant-controlled flat dampers are commonly furnished as an accessory. However, 2-piece butterfly dampers, as well as automatic electric or pneumatically operated single leaf or multi-louvered dampers can also be provided.

Screening

Bird or insect screening, constructed of the same material as the ventilator, can be incorporated where required. Sixteen mesh screen for insects—Expanded metal, No. 4 or No. 2 mesh for birds is normally installed as illustrated.

Painting

Ventilators can be painted with any metal preservative, acid or heat resistant paint or other specialized coatings.



All Penn products are Union Made—Sheet Metal Workers International Association (A.F. of L.) Local Union No. 153. Since it is the policy of Penn Ventilator Co., Inc. to continually improve the design and manufacture of its products, specifications and prices are subject to change without notice. ***Penn Ventilator Company, Inc. is a charter member of the AMCA . . . and has representatives and distributors in principal cities.***

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